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ABSTRACT

This study describes and analyzes the impact on student learning and the learning environment of 55 schools in Broward, Palm Beach, and Miami-Dade school districts as they implemented the schoolwide action-research framework for school improvement. Interviews, observations, document review during site visits, school framework reports, surveys, school newsletters, focus groups, and training institutes were examined. Study groups of 6 to 12 educators were formed who received 6 to 9 days of training to implement the action-research process, as well as professional development in math, science, or reading content pedagogy. When using action research teachers continually observe students, collect data, and change practices to improve student learning and the learning environment. Teachers come to have a better understanding of why, when, and how students become better learners. Improvement is seen in problem-solving capabilities through repeated cycles of research. During a 3-year program, faculty members choose a focus area, collect and analyze data, study professional literature and best practices, and take action. Educators complete the cycle repeatedly pursuing improvement. Among the attributes of schools in the study with significant improvement were the presence of administrators at training and study-group sessions, the study goal being embedded in day-to-day work rather than as an extra task, and the focusing on a student learning goal early in the study. (Contains 15 references.) (RKJ)

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School Reform In Action

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A study conducted by the South Florida Center of Educational Leaders at Florida Atlantic University to analyze the impact on student learning and school environment through the implementation of the schoolwide action research framework for school reform.

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School Reform in Action

> The appropriate starting point is existing reality where the researcher is, where the administrator is, where the student is, what the classroom is, what the school is, what the system is. And real change occurs as individuals involve change conceptions and role behavior. Michael Fullan (1984).

Action research is a natural part of teaching. Teachers are continually observing students, collecting data and changing practices to improve student learning and the classroom and school environment. Action research provides a framework that guides the energies of teachers toward a better understanding of why, when, and how students become better learners.

Purpose of the Study

The purpose of this study was to describe and analyze the impact on student learning and the learning environment of 55 schools in Broward, Palm Beach, and Miami-Dade school districts as they implemented the schoolwide action research framework for school improvement. Schools are in various stages of the three-year study beginning in 1997. In the first phase of this study discoveries were made of specific attributes exhibited by schools in the areas of leadership, study goals, collective study groups, instructional strategies, data collection and analysis, external support, and student performance. Schools that evidenced these discovered attributes made the most improvement in promoting quality teacher strategies and high-level student performance

The Schoolwide Action Research Framework Strategy

This study on implementing the schoolwide action research framework was largely based on the work by Calhoun (1994) who shares that building schools of inquiry through schoolwide action research is school improvement in three ways. First the problem-solving capabilities of the organization improve through repeated cycles of research as a collegial group. The second implies improvement in equity for all students, not just a few. The third implication of schoolwide action research is that the whole school community studies the academic area of concern in-depth.

As suggested by Calhoun, the Schoolwide Action Research Framework is designed for continuous confrontation with data on the health of the school community. Schools are encouraged to commit to a three-year program focused on long-term school renewal. The processes of action research involve movement through phases of inquiry: faculty members choose a focus area, collect and analyze data, study professional literature and best practices, and take action. The researcher completes the cycle over and over until changes in student learning become realized or questions within the focus area are exhausted.

The origin of formal action research concept of action research as an initiative was largely based on the work of Kurt Lewin and his colleagues in their development of a collective problem-solving cycle for improving life in organizations (1947, 1948). Lewin

and others who developed the action research concept emphasized collective rather than individualistic problem solving and study. Lewin (1947) advocated group work as part of the action research process because of the power of group discussion and interaction in producing commitment and because of the support for changes in individual attitudes and behavior provided by group interaction. As defined by Lewin action research is a three-step process of (1) planning, which involves "reconnaissance or fact-finding"; (2) taking actions; and (3) fact-finding about the results of the action (1948). The failure of the organization to measure the effects of actions designed to lead to improved conditions deprives workers (teachers, administrators, general educators, and students) "of their legitimate desire for satisfaction on a realistic basis" (Lewin, 1948, p. 202).

Corey (1949, 1953) was one of the first to officially promote action research in the field of education. His definition of action research was the "process by which practitioners attempt to study their problems scientifically in order to guide, correct, and evaluate their decisions and actions" (1953, p.6). His thesis was that school practitioners would make better decisions and implement more effective practices if they conducted research as part of their decision-making process and used the results of such research as a guide to selection or modification of their practice. The value of action research for Corey was "determined by the extent to which findings lead to improvement in the practices of the people engaged in the research? (p. 13). Through the involvement of teachers, administrators, and supervisors in studying their work (teaching) and in applying these findings to their school setting, changes would be more likely to occur.

Today, scholars such as Glickman and Goodlad have promoted the benefits of action research in school improvement. Glickman in support of the use of schoolwide action research for school renewal describes a framework of democratic governance, educational focus, and action research as integral dimensions of renewing education (1990, 1993). Within this framework, the principles that guide shared decision making within the organization are expressed in a school "charter," the focus on teaching and learning is expressed in a school "covenant," and the school faculty uses the "critical study process" of action research to assess the results of its current programs on commonly valued goals. Glickman found that effective schools demonstrate improved achievement over time; they regularly collect and use data to assess student performance (1990, p. 253). Goodlad observed that the action research process of identifying problem areas and ideas worth pursuing, gathering relevant data, discussing these data, formulating solutions, determining actions, and assessing the effects of these actions is a capacity currently "lacking in most schools" (1984, p. 276).

Participants' Profile

This three-year study is based on research gathered from study groups of six to twelve members from 55 schools in two separate schoolwide action research initiatives both in collaboration with the South Florida Center for Educational Leaders (Center) at Florida Atlantic University. In the first year of the initiative schools are involved in establishing study groups and learning about how to make positive school changes through the action research process. In the second year of the project, schools will develop plans to expand the action research process to involve additional teachers and

staff. The goal for the third year of the projects will be to expand the schools capacity to implement the action research framework schoolwide in the identified focus area and then into other curricular areas.

The first initiative is with schools from the South Florida Consortium of Schools sponsored through the Center. The Consortium initiative began in the spring of 1997 with 18 volunteer schools spanning five school districts in both urban (Broward, Dade, Palm Beach) and rural (Monroe County) areas. Thirteen schools were located in Broward County, three in Dade and one each in Palm Beach and Monroe County. The majority of the schools serve K-6 students with exception of one high school, one middle school and two K-8 schools. One of the elementary schools is an exceptional student facility. Six elementary Broward County schools continued in the third year of the study. In the first two years of the study the student academic areas that the schools chose to study were reading comprehension (10 schools), writing (2 schools), vocabulary (2 schools), mathematics (1 school), spelling (1 school), critical thinking (1 school) and, communications (1 school). In the third year of the project, six schools continued with a project-wide focus on reading comprehension as consulted by Dr. Emily Calhoun, Director of Phoenix Alliance.

The Center is also participating in a three-year collaboration with the Miami-Dade Urban Systemic Initiative (USI) to support the development of a school climate and infrastructure that enhances the ability to improve student mathematics and science skills and achievement. Twenty-six Miami-Dade Schools applied and were accepted to participate in the first year activities. They included 10 Elementary, 7 middle, and 9 senior high sites. Eleven additional schools, 7 elementary and 4 middle volunteered to join the second year of the initiative.

The purpose of this Miami-Dade project is to produce a cultural climate in which school study groups use the action research process to develop the following values and behaviors:

- All students can learn mathematics and science at high levels of cognition;
- Teachers have a central mission to provide maximum opportunities for students to learn;
- Classroom activities are structured around real-life situations and activities in which mathematics and science concepts are applied;
- Both individual and collaborative problem-solving is encouraged as a part of classroom lessons;
- Teachers hold high expectations for student performance and their performance;
- Collegial interaction of staff and sharing of ideas and best practices is a regular occurrence each school day;
- Continuous professional development and professional growth are expected;
- Teachers engage in data analysis and self-analysis as means to improve teaching and learning and;
- Teachers feel valued as professional who contribute to continuous school improvement.

Methods Of Inquiry

The research method used in this case study was interviews, observations, and document review. The study used multiple sources of evidence, that developed a converging line of inquiry: school site visits, school framework reports, surveys, school newsletters, focus groups, and observations at schools and training institutes. School-based study groups of six to twelve educators were formed at the 55 school sites and they received six to nine days training on implementing the schoolwide action research process and professional development in math, science, or reading content pedagogy.

The study groups were encouraged to meet at the school at least two hours every two weeks to collaboratively plan framework activities. Every six to eight weeks the researcher facilitators would visit the school site and participate in a study group meeting. The major operational task of the study group members were to keep the actions viable, focus on collective goals and on the sharing and use of data to inform the decision-making process.

Schoolwide Action Research Initiative Framework

The major components of designing an schoolwide action research initiative involve establishing the structure to support the framework to allow faculties to collectively focus on teaching practices and student learning. The following areas describe the schoolwide action research framework that is necessary to have in place to guide participants through the cyclic phases: formation of effective study groups, selecting a focus, data collection and analysis, taking action to select and use instructional strategies and looking at student performance.

Formation of Effective Study Groups

One characteristic of high performing schools is that they have been able to break down barriers of isolation to form collaborative learning organizations (Darling-Hammond, Fullan, Glickman, Little, McLaughlin & Talbert, Murphy, Schlechty). As educators begin the hard work of examining and changing teaching practices through the process of action research, they need to know that they are not alone – that other educators are experiencing similar joys, concerns, and frustrations as they perform the job of educating students. The study group serves as an integral element of the action research process in which the researcher is able to draw from the collective expertise of peers and other professionals to promote motivation, shared instructional strategies, tangible support, peer trust, experimentation, professional development, accountability, and celebration.

Study groups were formed in the beginning of the study as a means for supporting the actions of the researcher and to broaden the knowledge base by encouraging collective inquiry. The suggested size of an effective study group for action research was from 6 to 8 members. The group size should allow each member an opportunity to take responsibility and to fully participate. The study group size in this study was from 6 to 12 members. Caution was given that too large of a group may result in a tendency for the group to split into fractions. Also, scheduling for larger group meetings can be difficult. The study group formation was to include administrators, teachers, resource teachers, and parents and to consider forming multi-role or role-alike study groups or a combination of both to effectively involve the whole school community studying a

common focus area.

The optimal meeting time for study groups was to be targeted for at least two hours every week. The minimum meeting time would be two hours every two weeks. When there are more than two weeks between meetings, the study group tends to lose the ongoing support structure and momentum for rigorous study. When considering the length of a meeting the intended agenda should be kept in mind and the opportunity for all group members to fully participate. The goal was to meet as frequently and regular as possible. As soon as a study group is formed the meeting times for the year were to be established, i.e. every Tuesday from 3:00 – 5:00. In the busy days of educators, time to collectively work on instructional issues is a challenge that needs to be met with creativity and with priority.

Important to the structure of the study group was that members should accept responsibility for study group roles. The following were suggested roles that could be rotated two or three times throughout the year depending on the action research model used: facilitator, note keeper, time keeper, gatekeeper, and materials and data organizer. Roles can be rotated but keep in mind that confusion and lack of continuity can occur if the roles are rotated too frequently. Norms or ground rules should be agreed upon at the first meeting. The purpose for developing and following norms is to set up expectations for positive group behaviors to allow for an optimum learning environment for all participants.

The focus of the study group meetings was to serve as collective sharing and support centers of inquiry where the discussion is focused on studying a particular question regarding student performance and teaching practices. As part of the process researchers develop action or work plans to guide activities and tasks to be accomplished. Throughout the year the agenda topics of the study group meetings should be designed to provide collective support for all aspects of the action research process:

- Collecting, classifying, and analyzing data on the students and on the learning environment.
- Using external knowledge to inform researchers about optimum student standards, optimum teaching practices and how students learn best.
- Changes researchers are making in the learning environment at the classroom level (practice of new instructional strategies, staff development).
- Changes happening in student performance. The evidence of changes.
- A plan for sharing information and findings with others.
- Study group meetings included the following activities to promote support through collaboration among the researchers as they complete the actions of their study.
- Focus/Check In: Conduct an activity to energize the group and focus on the agenda topic
- Talk-Time/Conversations: Each member gives an update on their study since the last meeting.
- Share External Information (literature, videos, etc.): Members share and study significant information on student learning and teaching practices.
- Focus area: Members work collectively to design and refine their study question.

- Practice new teaching strategies: Design and practice instructional practices.
- Data collection and analysis: Design data collection instruments and strategies, conduct group analysis, and/or share findings
- Writing help: Share and edit written reports of the studies.
- Meeting summary: Collect feedback on how the meeting went.
- Journal writing: Allow members time to write about the action research process or their study.
- Agenda setting: At the end of each meeting determine the agenda for the next meeting.

The action research study group process is dynamic and group functioning is influenced by differences in members' needs and expertise, focus questions studied, structure of meetings, and support of the study group.

Selecting a Focus

A critical phase of action research is choosing a focus area. A clear understanding of the focus area provides the researchers with the vision and direction for the study. Action research projects that have the greatest impact on student achievement are those that are focused on a specific area in student academics. Teachers continually seek understanding on how students learn, how students feel about their learning, how students make meaning out of their learning, and how teacher's actions impact student learning? General information on these topics provide interesting conversation but do not give teachers a clear sense of what, where or how to begin a study in a specific area of student and teacher learning.

One way to begin selecting a focus is to look at the school improvement goals. Schools throughout the nation have expended large amounts of time, energy and resources to identify student academic goals that guide curriculum, assessment, and instruction. Since the goals address all aspects of school life, teachers engaging in action research should limit their study to one area. This area should be one that is important to the teachers and one that teachers feel they have influence over to make the biggest impact on student learning.

A strategy for sorting out, clarifying and elaborating areas of possible study is to use group collaboration (Sagor, 1992; Burnaford, Fischer, & Hobson 1996). This allows teachers an opportunity to expand ideas, and perspectives that will help teachers think about possible areas to study. When working in groups, design questions that begin with "why", "how," or what." The following are questions that have been used in various action research collaborative planning sessions to begin the process of selecting a meaningful focus area.

- What is your biggest question as you think about the students in your classroom?
- What interests you most about student learning?
- What challenges you or is a problem about your classroom or teaching?
- What do you want to know more about when it comes to teaching your grade level or subject?

Once an area of focus is selected, teachers need to narrow the area into a question or topic where the action research study will begin. Calhoun reported in the winter 1999 *Journal of Staff Development* that one of the most critical and challenging steps in the

school improvement process is establishing clear, specific goals for the high achievement for all students. It is the challenge of the teachers to "knead" the selected focus area until there is a clear picture of where the study will begin.

In an action research workshop at the December 1998 National Staff Development Conference, Caro-Bruce suggested that groups use a "fishbone" cause and effect diagram to help clarify the selected overall focus into a manageable study area. Teachers are encouraged to brainstorm all possible causes of problems in each category by asking: Why does this happen? What is the cause of this problem?

Why or in what way does this contribute? An importance is then assigned to each factor objectively on the basis of what is most important to the teachers and to the students, what focus area would have the greatest impact on all students and where could the classroom teacher make the most difference in this action research study.

This exercise or others that use a similar principal of "mile deep" thinking, gives teachers a more in-depth understanding of what area of student learning they would like to focus on and why. The activity of recording possible causes for a problem is very helpful in identifying a starting point for data collection, professional literature study, and taking actions on changes to improve student achievement. Sagor (1992) notes that action researchers who begin their work with a clear idea of what and why they were studying tend to find the motivation to complete their work.

Action research is an unfolding dynamic process. The cyclic process of planning, data gathering, data analysis, taking action, assessing those actions and making changes create an exciting framework of inquiry in which ideas and questions continually evolve throughout the study. Selecting a powerful student focus area, one that is important to teachers and students, provide a strong basis for beginning an action research study.

Data Collection and Analysis

Action research is a formative study of progress, requiring regular and frequent data collection so that changes and trends can be seen. It is recommended that researchers select multiple sources of data for collective study to develop a comprehensive picture of how students are performing and of what students are experiencing.

The collection of data from multiple sources serves three major purposes: (1) to provide baseline information on students' skills and attitudes; (2) to guide immediate action at the school, classroom, and student level; and (3) to assess progress over time.

For vital areas of interest, such as the effect of the new writing curriculum or students' achievement and attitude in writing or grades being made by at-risk students, data collection may occur as often as biweekly for a year or more.

The big question is, *what sources will provide the researcher with information about student learning?* How are students doing in the academic, social, and personal domains of the focus area? For example, are they learning how to explore the world of writing and apply those concepts to other disciplines? In terms of productivity in writing, what do grades indicate about student performance, and what do standardized test scores indicate?

When designing an action research study, researchers must realize that their first obligation is first to be a teacher, then a researcher. Traditional research methods such as selecting a control group may interfere with a student's opportunity to learn at

optimum levels. Critical to the design is the researcher as the primary instrument in that observations are important in the collection and analysis of data.

Before data collection begins, a researcher should answer the following 5-W's and 1-H questions:

1. Why am I collecting this data?
   How is the data related to the study question?
   What will the data tell us about student learning and teaching strategies?

2. What exactly am I collecting?
   What kind of data will give me the best information about students learning and teaching strategies? Gather data on the same question in different ways, from different sources, and at different times (triangulation).

3. Where am I going to collect it?
   What kind of a sample is needed?
   Do I need to identify the student for long-term tracking?

4. When am I going to collect it and for how long?
   How much data is needed?
   How periodic should the collection be?

5. Who is going to collect it?
   Is this data being collected by myself or another staff members?

6. How will data be collected, analyzed and findings shared?
   Has a time-line been established?
   Where and how will the data be stored?
   Has the criterion for analyzing the data (rubrics, implementation logs) been established before the data is collected?
   What is the system for recording, displaying, and sharing the findings?

Data Gathering Procedures

The primary means of collection data is through gathering distance and up-close data. Distance data is existing sources of data that is currently available in the files or archives of the school or of individual staff members. Examples of distance data include standardized test scores, school population summaries, family background, attendance, referrals, grades, and courses taken.

Up-Close Data is a direct measure of individual student or teacher performance in some dimension of the focus question. Examples of up-close data include surveys, interviews, observations, samples of student work, teacher/student journals, video/audio recordings, students attitude about learning, and logs of performance and teaching

To get started in data collection, identify at least five sources of data in the following areas that would help inform about the student focus area/question.

- Student behavior or performance
- Teacher behavior or performance

- External sources or resources that would provide information and ideas about how students learn best and good teaching strategies to use (articles, books, videotapes, persons, organizations)

Action research conducted in a classroom provides an accurate glimpse into patterns of student response and teaching strategies over the entire school year, not just a matter of days or weeks. As a variety of data sources are collected on the same question, the researcher is able to view the results from many lenses to focus on significant findings.

Analyzing Data Procedures

It is a relatively easy task to amass large amounts of data, but another to make sense of that data. The process of data analysis includes organizing the data, searching for patterns or themes and drawing conclusions among the data. The research method for analyzing data will vary depending on the type of data collected.

Data collected such as standardized tests, surveys, number of students enrolled in advance classes, amount of time student is on task, and number of demonstrations a teacher includes in lessons can be represented statistically or numerically and be analyzed quantitatively. Those are the "what" questions of the questions of the study. For the "math challenged", computer programs and calculators quickly and painlessly analyze the most common methods used in action research which are descriptive, correlational, and group comparison research (Glanz, 1998).

In-depth, rich information about students and teachers in their natural environment is found by asking "how" or "why" questions. The qualitative research method analyzes such data collected in the form of interviews, observations, samples of student work, teacher/student journals, and video/audio recordings. Three steps of analyzing qualitative data, review and organize, display the information, and develop codes and categories, are suggested by major researchers (Bogdan & Biklen, 1992; Miles & Huberman, 1994; Wolcott, 1994b). The analysis can be done by hand or with the help of computer data analysis programs such as NUD-IST, The Ethnograph or HyperRESEARCH are available to researchers analyzing large amounts of data.

The following is an example of how to organize data for qualitative data analysis.

- Review all of the information to get a general sense of the data and of any notes that were made by the researcher.
- Rank order the types of data that have been collected and ask what makes more sense to look at first.
- Spread the data out on a table and with colored dots or markers identify common themes, statements, or patterns of behavior.
- Create a visual display of common themes or patterns. The visual display could be as simple as a sticky note flow chart or more formal diagram, bar/line graph, table or chart.

The researcher should analyze at least three different data sources from a variety of settings over a period of time, a process called triangulation, to help give a more complete understanding of the question and to corroborate or refute information gathered. If a researcher is seeking how can students improve the quality of writing, they may begin by collecting, analyzing and reporting the findings of achievement

scores from the past five years. Questions should be framed to look at patterns or trends in subtests and subgroups, improvements, surprises, and should encourage the researcher to revisit the focus problem and to ask, what else is needed to know? and what other data do I need to collect?

With the analysis from the first collected data, the researcher will make a decision on what additional data to collect and analyze. The researcher may decide to conduct a survey focusing in on writing attitude of students, interview students, video tape of teaching practices or collect student work samples over 9 weeks. By the very cyclic nature of action research, additional questions are generated as more data is collected and analyzed.

By the very nature of action research, the collection and analysis of data is ongoing throughout the study. However, in the real world of education, teachers only have a limited time to work "smarter" to improve student learning. First actions should be based on the analysis of several types of data from which the researcher has been able to generate general themes and areas of concern. Some identified areas of concern, building up and reading more non-fiction to students, may be corrected "at will" or just by making quick changes. Other areas such as improving instructional questioning techniques may take sustained staff development. Researchers may want to search the literature to find out what experts in the field suggest as to the best way students learn or the most significant teaching strategies to use in the identified concern areas. The analysis of data should provide the researchers a sound basis for taking action.

Taking Action to Select and Use Instructional Strategies

The purpose of conducting action research in schools is to provide teachers with knowledge of what is happening in the learning environment and how students learn best. From data collection and analysis, teachers will be able to make informed decisions about selecting significant instructional strategies that will lead to improved student performance. The following steps are suggested as a guide to select the best instructional strategies for a specific school or class of students.

1. Gather information about the current performance and learning attitude of students in a specific school or class, what the experts tell us about how learners in other settings perform and what we know about how to design a learning environment that support the goal area that we have selected to study. The areas of study to consider include curriculum, instruction, assessment, or management of the classroom:
   - Curriculum (what are we teaching): What is the current lesson and unit content (what are our current lesson/unit objectives, concepts, and materials that are intended to support student pursuit of the goal)?; How much time/space is allotted to this content; how is this content treated in textbooks, local curriculum or standards documents, and other resource materials being used (e.g., quality of presentation, quantity of coverage, appropriateness of presentation, accessibility)?
   - Instruction (how are we teaching): What strategies are currently used to support goal attainment in our focus area?, How much time is provided for instruction specifically aimed at developing these student performances and responses?
   - Assessment (what student performances and responses are we assessing in our focus area; how are we assessing them; how often are we assessing; and for

what purposes): What is the nature of classroom and school assessment of student performance and responses and how are the results of assessment used in planning lessons, units, and whole school/curriculum modifications?

- Management: How are time, space, students, staff, special programs organized to support student progress in our focus area?

2. Based on the analysis of data collected on the current performance of students, determine what is happening in the learning environment, and how experts suggest that students learn best, teachers select actions or instructional strategies to add to or expand current practice. Teachers may need to prioritize identified actions or strategies into a manageable action plan.

3. A description of the action or a detailed explanation of the instructional strategy selected is used to develop lessons. This description or explanation can be one developed by the researcher or study group or one that is borrowed/modified from an external source. An action can be something as simple as have math manipulatives available. If a complex instructional strategy is selected, provisions need to be made for some sustained staff development.

4. Use the instructional strategy description or explanation to develop an implementation log that will allow researchers to record use of the action or to record use of components of the instructional strategy selected. Use this log to keep track of the use of the action or strategy. Examples of implementation logs include records such as, type of questions used in class and student responses, amount of time spent reading nonfiction materials, number of homework assignments completed, etc. An expansion of the implementation log could include the collection of student work samples, video or audio taping, or student journals. The teacher needs to collect what they feel appropriate to document the instructional strategy being used.

5. Use this completed implementation log during action research study group meetings when discussing, planning and rehearsing lessons or sharing the results of lessons taught. Peer coaching can be used when teachers are working on similar lessons within a study group. Divide into groups of two making arrangements for each pair to observe each other teaching the strategy.

6. In schoolwide action research, the study group works collaboratively to complete the summary. If a person external to the school is providing support with staff development and implementation, they will need a copy of the group summary before they plan their next visit or session.

7. Remain with the selected action or strategy until feeling comfortable with it's use or effects. When a move is made to a new strategy or action, this does not mean that the "old" one is dropped. The old one becomes assimilated into practice.

8. Share findings (successes and concerns) about using specific instructional strategies. As the researcher works through the process of selecting and implementing instructional strategies based on data analysis discoveries will be made about how to modify teaching practices to impact student performance. These new discoveries should be shared in faculty meetings, conferences and in written reports.

Making informed changes in instructional practices is the heart of the action research process. From their close-up view of students teachers have the best opportunity to make informed decisions on what instructional strategies positively impact student performance.

Looking at Student Performance

A major challenge of the action research process is to identify the link between teaching practices and student performance so that high achievement levels can be obtained. This can be accomplished through a process of carefully recording the methods used in a classroom over a period of time to teach a specific skill or concept and assessing student performance along the way. One way to assess student performance is to look at student work samples. The Coalition of Essential Schools has published a protocol (a structured dialogue) to guide teachers in examination of student work. The collaborative study groups formed in schools using action research as a framework for school reform provide a safe place for teachers to use the protocol to share teaching practices, look at student work samples related to that teaching, and ask critical questions about how to improve practices.

Depending on what a teacher would like to gain from the collaborative look at work samples, the procedure or protocol might be approached from different angles. A general summary of the procedure for looking at student work contains the following elements:

- A teacher chooses assignments to share that represent a broader range of student's freedom to think and make decisions. Avoid basic work with little explanation opportunity.
- Share either a single piece of work from one student in response to a single assignment, 2 or 3 samples of work from the same student, or work from 2 or 3 students in response to the same assignment.
- Copies of the work samples should be provided for each group member.
- The teacher presents a question or an area of concern about the work in which feedback on the samples should be focused and is requested.
- The group members go through predetermined procedures to ask questions, and suggest supportive and challenging nonjudgmental feedback.
- The presenting teacher, shares their perspective on the student's work, responding to the suggestions and questions asked and also comments on anything surprising or unexpected that was shared.

The procedure of using a structured process for looking at student work provides teachers a nonthreatening method of focusing collective conversation on student work and teaching practices. The study group uses this session to reflect on implications about teaching and learning to support the particular student(s) whose work samples

were shared. The presenting teacher has an opportunity to use the knowledge gained through this process to change teaching practices as well as validate successes.

Discoveries

Schools that exhibited the following attributes showed the most improvement when promoting quality teacher strategies and high-level student performance using the schoolwide action research framework for whole school reform:

1. Leadership
   - The principal or identified administrator is the key advocate for supporting the process. Their authority is necessary to provide support in the way of released time for collective study and material and funding resources.
   - The principal/administrator attends all training sessions and study group meetings.
   - The study group has a clearly identified facilitator who was instrumental in allowing the members to work in a positive manner toward a collective goal.

2. Study Goal/Focus Area
   - The focus goal is an identified part of a whole school reform effort directly related to school improvement goals.
   - The focus area is on student learning and staff performance in a major academic domain.
   - The study is limited to one area that teachers have identified as one that teachers feel they have professional influence over to make the biggest impact on student learning and on changes in their practices or the learning environment.
   - An assessment of school programs was made to determine which ones are most effective. Non-effective programs are eliminated from the school curriculum.
   - The study goal is embedded in the day-to-day work rather than an extra project added on to existing teaching tasks.

3. Collective Study/Study Groups
   - Regularly established meeting times for the study groups to meet during the year are scheduled as soon as the group was formed, i.e. every Tuesday from 3:00 – 5:00 PM.
   - Study group members are responsible for regular attendance at the scheduled meetings, learning and implementing the action research process, collection and analyzing data, examining their own teaching practices and be willing to change if the data support, explore significant instructional strategies, design a plan of action, request assistance when needed, share and promote the initiative to include the whole school community.
   - Specific long and short-term and action plans are written and updated that reflect the ongoing data collection and analysis on teaching and learning.

- The size of the study groups are manageable enough to include a diversity of curricula representation but are small enough to allow participation of each member at each meeting.
- The majority of the study group members remain the same for at least one year.
- The majority of members consistently attend all the off-site staff development on the action research process and inservice for developing instructional strategies
- Specific study group roles to help facilitate the meeting are identified. These roles include facilitator, note keeper, materials/data organizer, and other roles and determined necessary by the group.
- At each meeting an agenda of actions to be accomplished is used to direct discussion and objectives.
- The meeting is conducted using agreed upon norms for a learning community.
- The group meetings are centered on understanding how students learn best, receiving staff development on significant instructional strategies, planning lessons together, study data, discussing results of lessons, and planning new actions based on findings.

4. Instructional Strategies
   - The whole school community (administrators, teachers, support staff, students, and parents) is collectively involved in working on a common goal area to improve teaching and learning for all students.
   - The whole school community receives staff development in learning how to implement significant instruction to meet the identified needs of the student population.
   - Peer coaching teams develop lessons together, study lesson implementation and student learning, and visit one another to observe lessons.
   - The study group collectively designs and uses teaching implementation logs to assess the effectiveness of a specific teaching strategy.
   - Study group members read, study and use external information on optimum teaching practices and on how students learn best (literature, curriculum standards, videos, classroom visits).
   - Staff development needs are determined by the ongoing assessment of the study.

5. Data Collection and Analysis
   - Study group members triangulate date to: a) determine baseline information on student learning and teaching practices; b) to guide immediate action at the school, classroom, and student level; and c) to assess progress over time.
   - Collective decisions are made before data is collected to determine the relevancy of the collection. Data collection is limited to data needed to answer study questions.
   - Data is frequently analyzed to show emerging patterns and themes to determine what actions (if any) will be taken as a result of the findings.
   - Teachers regularly assess student work as related to instructional practices.

- The study groups use qualitative and quantitative computer programs to manage and report data analysis.

6. External Support
   - Schools receive regular on-site support by project facilitators who understand the action research process and the content pedagogy.
   - Schools ask and receive external assistance from the school district, state and national agencies.

7. Student Performance
   - The initiative needs a minimum of 3 years of concentrated efforts to show significant improvements in student performance.
   - Schools that noted academic achievement gains were ones that focused on a student learning goal early in the study.
   - In the early stages of this study, student performance was observed as more attitudinal than academic achievement gains:
     - More attentive in class
     - Work at higher levels of cognition
     - Better attendance records
     - Less discipline referrals
     - Greater interest in subject area

Conclusions

The first phase of this study was about making discoveries. Schools worked collaboratively in study groups to learn the process, collected and analyzed schoolwide and classroom data, and focused on a critical content area to improve instructional strategies. Some practices were improved immediately upon discovery. For example, one teacher after tallying the frequency of teaching fact and opinion found that they did not teach those skills as much as they had assumed. Through data collection and analysis, another school determined that they were reading only fiction aloud to their students. Schools were also able to identify needs that were crucial to improving student performance and instructional practices that will take sustained staff development. In the second phase, schools will begin with prior knowledge from their extensive analysis pf phase one of who their students are and what critical areas to address in student performance. The schoolwide action research groups will have an opportunity to specifically identify student performance as a result of changes in instructional strategies.

An overall conclusion of this study was that the majority of schools benefited from working collaboratively on an academic student learning goal. Working through the phases of the framework gave the study groups a good understanding of the overall student population and academic areas that needed immediate attention. Study groups overwhelming responded that the most powerful tool of this initiative was an opportunity through this study to be empowered to develop their professional abilities through collective inquire to determine the best actions to take to help all student perform optimally.

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